

PRESENTATION FRETWORK DESIGN WITH THIS NUMBER.

Hobbies

• A Weekly Journal •

For Amateurs of Both Sexes.

No. 1. VOL. I.

OCTOBER 19, 1895.

ONE PENNY.

Fretworking and Inlaying in Wood.

Photography for Amateurs.

Hobbies that Pay.

Stamps and Stamp Collecting.

The Magic Lantern, and how to make the Slides.

Bazaars and how to Decorate them.

An Electric Scarf Pin.

Cycling, Football, and Athletics.

A Fretwork Model of St. Paul's Cathedral.

Venetian Ribbon or Bent Iron Work.

Weekly Presentation Design.

Prize Competitions, Correspondence, Etc.



.. FRETWORKING ..

SCROLL-SAWING, INLAY AND OVERLAYING

CHAP. I.—PRELIMINARY.



At the outset of this series of articles let it be assumed that the reader has at least an elementary knowledge of what Fretwork is. So many different books on the subject can now be procured that the intention here is mainly to throw out some practical hints and suggestions to

those who are already engaged in the pursuit.

The Art of Fretcutting has now reached a stage when it is more than a mere schoolboy hobby, and much information can be given on the subject without unduly trespassing on any manuals already published. An attempt will be made to deal with every branch of the work, but at the same time it will be borne in mind that amateurs are being addressed, and these instructions will not be carried beyond a certain limit.

SELECTION OF WOODS.

With regard to the special varieties of wood now obtainable reference will be made later. Here, however, any less experienced worker might be warned to consider the objects and uses of the article he is about to cut before definitely selecting his wood. When so many different kinds—both solid and 3-ply—may now be procured, there need be no difficulty in securing a suitable piece. It stands to reason that with such an article as a Wall Bracket, which runs a small chance of meeting with accidents, a greater liberty may be taken, and almost any wood employed. But with a table ornament, or one where the work is specially slim and delicate, care must be taken to choose a wood which is not "grainy" or brittle; and if there be projecting points which are liable to get chipped off, 3-ply must be selected.

Three-ply wood, which is now extensively used, is composed of three layers of wood, the grain of the inner piece running at right angles to that of the outer pieces. This arrangement greatly increases the strength. Indeed for very delicate articles 3-ply wood is almost indispensable, and for general work



3-PLY WOOD.

where durability is wanted it is highly recommended.

Attention must also be paid to the thickness of wood. Little advantage is gained by ploughing through a three-eighth inch board if one-eighth is sufficient. With the same expenditure of labour three separate articles might be cut. At the same time, the commoner risk of using too thin a wood must not be overlooked, and although it may be eminently satisfactory to do several ornaments at one cutting, the result is a total failure if each is too slim to be employed for practical purposes. Naturally, no infallible rule can be laid down with regard to this, and the amateur can only be exhorted to use his own good judgment in the matter.

Another point where discrimination is required is in placing the Pattern on the wood. Every beginner is scandalised at the apparent waste of good timber; and he has some reason to be so, as many Fret Designs—however artistic and effective—give little encouragement to those who desire to be economical with their wood. When a fairly open Pattern has been duly cut out, it is heartrending to reflect that perhaps less than one-fourth of the material actually remains, and that those very bits with choice touches of figuring lie useless on the floor. However this is but part of the work, and can never be remedied. All that can meanwhile be done is to offer the obvious suggestions—(1) Do not use finely-grained wood for very open Frets, and (2) always try to place the Pattern so that any effective streaks of figuring may be left uncut.

One of the chief reasons for the deplorable waste in wood lies in the almost invariable necessity of having the Pattern to run with the grain. Strong is the temptation sometimes to place it otherwise; but unless the wood be such as Holly or Bird's Eye Maple, where the actual grain is not always noticeable, this plan is most objectionable. To see the figured streaks running across some upright ornament is very unpleasant, while the idea of letting them run *diagonally* is too absurd even to condemn. On the whole it is better to sacrifice the timber than the article; and if a Pattern is worth cutting out at all, it is worth its square foot of wood.

Various uses to which the necessary waste may be put will be given hereafter. No piece a couple of inches square should ever be destroyed; it might be required at any time. Smaller

chips may be presented to the housemaid, who will seldom have the privilege of lighting her kitchen fire with selected Rosewood or Walnut.

TRANSFERRING PATTERN TO WOOD.

In transferring the Design to the wood there are two methods in every day use. The first and simpler is to paste down the Pattern, and when dry proceed to work. This plan certainly has its advantages, as the outline is always clear, and one is consequently less liable to make a mistake. The wood, too, is kept clean, and the paper can easily be removed with a little water.



Method of placing Design on wood.

Many, however, prefer a plan which does not necessitate the actual destruction of the Pattern itself, and a threepenny sheet of black or blue transfer paper will prolong its days and spare its useful life. If care is

taken in the drawing, the spirit of the Design need not be lost, and the Pattern may of course be used a dozen times. It has been said that "no book is worth reading *once* which is not worth reading *twice*," and the same idea may be made applicable to a good Fretwork Pattern. The transferring should be done firmly, either with a hard pencil or with an agate style, but the point should never be pressed so as to make a furrow appear in the wood. The black lines are easily rubbed out with sandpaper.

When the Pattern itself is pasted on be careful not to stretch it. Thin paper is very elastic when damp, and there is a danger in this respect, as the stretching of the paper would naturally mean the contortion of the Design.

A third method of applying the Pattern might be mentioned in passing. Instead of pasting it to the wood, glue it firmly to a sheet of stiff paper, or to a bit of thin but tough cardboard. This is then tacked to the wood, and when cut out forms a stencil plate. Thus, with a sharp-pointed pencil, fresh copies of the Design may easily be traced at any time. However, this seems a far-fetched idea altogether and does not strike one as being particularly ingenious. A somewhat similar plan, which can be followed when two or more articles are being sawn at once, is to place a sheet of paper between each piece of wood, and in this way preserve duplicates of the Pattern. An objection to these methods is that paper tends to impede the progress of the Saw. It is much tougher than wood—as anyone would soon discover if he tried to cut through half-a-dozen sheets of thick pasteboard—and small ragged shreds are apt to get caught in the teeth of the Saw-blade. It is only right to add, however, that some Fretworkers prefer these plans, and constantly adopt them.

When the Pattern itself is fixed to the wood, use flour paste or starch (not glue), and wait until it is thoroughly dry before starting to work.

These remarks have been chiefly of a preliminary nature. Further articles will treat

more directly of the practical work, and will be illustrated with explanatory Diagrams and Sections, which it is hoped may lend assistance to some less-experienced reader.

(To be continued.)

HISTORIC FRETWORK.—At the present day much adverse criticism is being passed upon the Chinese, but whatever their nineteenth century shortcomings it should not be forgotten that they had established Fretwork as an Art three thousand years ago. Their antique examples are superior to those of any other nation, as may be judged from the various specimens to be seen in our National Museums. Some old examples of Indian Fretwork are also exceptionally fine, but they hardly equal the Chinese work in point of delicacy and artistic feeling. In this country Fretwork was almost unheard of until the Tudor period, and from then to the present time—if we except the heavy Elizabethan productions—it may be said to have slumbered. To the Swiss we owe the real origin of what can be called Modern Fretwork. Early in the century the work was practised by the peasantry, soon with such success and profit that regular Fretwork colonies were founded. Great Britain was only roused from her state of lethargy when a few indifferent Treadle Machines were sent over from America some twenty-five or thirty years ago. Since then rapid strides have been made, and it may safely be said that the Tools, Materials, and Designs which are now produced in England are unequalled.

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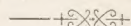


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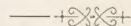
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With this New Edition of 20,000 copies, we shall present
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STAMPS

Week by Week.

A Philatelic Causerie by PERCY C. BISHOP,

Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY," Ex-Editor of "THE PHILATELIC JOURNAL" and "PHILATELIC REVIEW OF REVIEWS," and Founding Member of LONDON PHILATELIC CLUB.

In future numbers of *Hobbies* the Philatelic Editor will reply to any queries applying to his department. Letters enclosing stamps for examination or valuation should be accompanied by a stamped and addressed envelope, and all communications should be directed to the Stamp Editor, "HOBBIES," BOUVERIE HOUSE, SALISBURY SQUARE, LONDON, E.C. Other regular features of the stamp column will be a weekly list of new issues (illustrated), and, if practicable, a stamp exchange for the convenience of readers having duplicates to dispose of.

Just now there is unusual ferment in the world of Philately. The voice of the agitator is heard in loud denunciation of the species of stamps recently christened "Gumpaps,"—stamps issued principally for sale to collectors. It is a matter of general knowledge that the stamp-collecting hobby is turned to practical account by impecunious Governments, by the frequent issue of new sets of stamps. The money derived from the sale of these unnecessary issues to Philatelists has come as a boon and a blessing to many a poor Minister of Finance in such great and important States as, say, San Marino, Liberia, and Montenegro, and has helped to maintain the establishments of many petty Rajahs in the native States of India. Even an important European Nation like Portugal has been found guilty of exploiting the Philatelic hobby. France, so far as its colonial issues are concerned, is certainly not free from a tinge of "Gumpap-ism." This sort of thing has endured too long, and it is gratifying to find that the Philatelic worm is turning. The formation of the Society for the Suppression of Speculative Stamps, under the auspices of the most prominent English and continental Philatelists, is the first nail in the coffin of the iniquitous "made-for-collectors" stamps.

The Society, which has its headquarters at 391, Strand, London, will leave no stone unturned to check the "Gumpap" evil. At first it will content itself with issuing periodical warnings to collectors, but if this means be found unavailing stronger measures will be adopted. Once teach the young collector what to collect and what not to collect and the "Gumpap" difficulty will be remedied. Petty Governments, such as those I have mentioned, finding their rubbishy wares no longer in demand, will quickly restrict their output of postal stationery to reasonable dimensions. It

is simply a question of supply and demand. Remove the demand and the trick is done.

As fully set out in the Society's Statutes, the objects of the organisation are:—

(A) To discountenance and prevent the dealing in and collecting of postage stamps or other postal matter created wholly or partly for speculative purposes, or unnecessary for legitimate postal uses or requirements.

(B) To decide and declare what stamps or other postal matter shall be classed as speculative or unnecessary, as aforesaid.

(C) To secure the exclusion from all catalogues, albums, journals, price lists, or other Philatelic publications, of all such stamps or other postal matter, as aforesaid.

(D) To take such measures as may lead to the prevention of the issue of all such stamps or other postal matter, as aforesaid.

(E) To publish and cause to be published from time to time all decisions, proceedings, or other information, in such manner as may secure the widest publicity amongst all persons or Societies interested in stamp collecting throughout the world.

(F) To take any measures that may be deemed expedient, desirable, or necessary for the further and better carrying out of the before-mentioned objects, or for any other purpose in the interest of the members of this Society.

Thus, if good intentions count for anything, we are in a fair way to get rid of a pest that seriously threatens the future of stamp collecting. The importance of the crusade against "Gumpaps" cannot be exaggerated, and the best proof of the urgent necessity for united action is the fact that all the leading dealers and collectors—all the men, that is to say, who have large sums of money invested in stamps—are prominently associated with the movement. On the Executive Committee are Mr. Morris Giwelb, the well-known dealer in rare stamps; Mr. Harry Hilckes, one of the leading specialists in English stamps; Mr. W. Hadlow, the well-known "Philatelic auctioneer;" Mr. Fredk. R. Ginn, the Secretary of the Philatelic Protection Association; Mr. W. H. Peckitt, another dealer in "gilt-edged" stamps, and Mr.

J. Scott Stokes, a journalist who devotes considerable time and attention to Philately.

These names alone are a guarantee that the Society will run straight and stick tight to its task. I am hoping that every stamp-collecting reader of *Hobbies* will invest 5/- as an annual subscription to the Society for the Suppression of Speculative Stamps. Mr. Gordon Smith, the courteous secretary, will be delighted, I am sure, to furnish any further particulars that may be required.

PHILATELY GENERALLY

stands in a better position at the present moment than at any previous time. Prices for rare stamps have steadily risen, and bid fair to go still higher, despite the head-shaking of the wisecracks and the suspicion of undue inflation cast upon the prices of certain stamps. The "rage" at present is for Great Britain and Colonies, but undoubtedly there is another "boom" coming in the older continental stamps.

"SPECIALISM"

is now the order of the day in stamp collecting. The majority of collectors plainly see the futility of attempting to get together a collection of all the countries in the world. Such a collection, to be anywhere near completeness, would exhaust the resources of a millionaire. This being so, the average collector applies himself specially to one country or group of countries. And the high prices now ruling are mainly due to this tendency to "specialism." Take an instance. Mr. M. P. Castle, the popular Vice-President of the London Philatelic Society, recently sold his Australasian collection to Stanley Gibbons, Limited, for the unprecedented price of £10,000. And this for a collection embracing only a half-dozen stamp-issuing countries!

SOME OF THE VERY RAREST STAMPS.

"Worth its weight in gold" is a simile too feeble to apply to the chief treasures of the Philatelist's album. There are a dozen or more stamps worth considerably more than their weight in diamonds. The penny "Post Office" stamp of Mauritius, with its comrade the twopenny of the same issue, sold recently for £780, the purchaser being a



wealthy collector in Birmingham. Scarcely less valuable are the early stamps of the Hawaiian or Sandwich Islands. The 2 cent, illustrated here, is worth £300 of anybody's money—at least, of any stamp collector's money. The first Indian Half-Anna stamp, printed in the red colour, is becoming rarer every day. Several single specimens, and even a few strips and pairs, exist in the best collections, but albums which contain no



Half-Anna red are the rule rather than the exception. Americans will tell you that the rarest stamp in the world is the New Haven envelope stamp; but that is mere patriotism. Still the New Haven stamp is worth its £250. To describe all the stamps that are worth more than their weight in gold would take a whole issue of *Hobbies*. There are

the rare "Woodblock" Capes, the early Réunions, the Tuscans and Moldavians, and a host of others. But

THE SCARCEST STAMP OF ALL,

beyond the shadow of a doubt, is the 1 cent. British Guiana of the 1856 issue, of which an illustration is annexed. An ugly brute, is it not?—and dreadfully dear you will say at £500 or £600. The strangest thing about this stamp is that it is absolutely priceless. Only one specimen is known to exist, and that one reposes in the collection of a munificent amateur whose stamps are valued at a little matter of £100,000.



SALE OF RARE STAMPS.—The other evening, at their rooms, Leicester Square, Messrs. Puttick & Simpson concluded an important sale of British, Foreign, and Colonial postage stamps. The best items were:—British Guiana, 1862 provisionals, 1 cent., pink (£18. 18s.); ditto, 2 cents., yellow (£9. 5s.); ditto, 3 cents., blue (£13.); New Zealand, 2d., blue (£7. 10s.); South Australia, 1d., green, unperforated and unused (£7.), and Tasmanian, 1d., blue, vertical strip of four (£6.) On the first day some very high prices were obtained, the best being as follows:—A block of four 2d. post paid Mauritius, on piece of original (£210.); ditto, 2d. post paid, a second pair, on piece of original (£28. 10s.); ditto, 1d. post paid (£10. 10s.); Canada, 6d., purple (£13.); New Brunswick, 1s., mauve, unused (£20.); and Nova Scotia, 1s., violet, torn (£19. 10s.)

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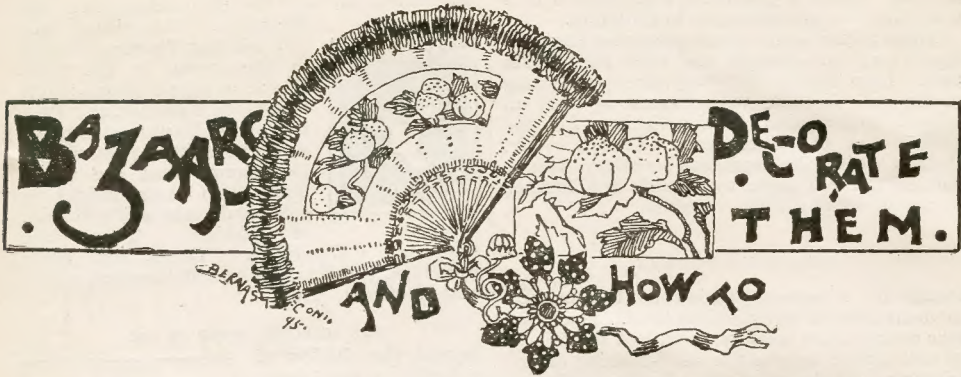
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CHAP. I.—THE COMMITTEE.



BAZAARS unquestionably provide the most successful means of raising money for charitable purposes, and in the following articles it is intended to give a few practical hints and directions which, if adopted and carefully followed out, may go a long way to ensure a satisfactory result. As funds however must naturally be sunk in expenses at the outset, the question of organisation is an all-important one, and unless arrangements can be carried out in an economical, methodical, and attractive style, the financial balance may eventually be recorded on the wrong side. It is scarcely necessary to say that the object of the Bazaar must be a thoroughly commendable one, and good reasons should be given for promoting it before the public are asked for their patronage. At the same time, no Bazaar should be got up as a mere Charity Box where a shilling is dropped in with an air of lofty benevolence, but the aim should be to give every patron and visitor full value for their money. Subscriptions and goods should certainly be received as charitable gifts, but no greater mistake can be made than to set up the Bazaar in a cold, unattractive fashion. Visitors should be made to feel that they have come to something "worth coming to," and should not be allowed to leave with the sole impression that they have merely benefitted some charity, and thereby added to their list of good works on earth.

In this introductory chapter only the preliminary arrangements can be spoken of, and the more interesting subjects of decorating the hall, setting up the various Stalls, and providing novelties in the way of Side Shows must meanwhile be held over. Later on, articles will deal with decorations in Chinese, Japanese, Old

English, Turkish, Moresque, and other styles, and it is hoped to give a full description of the Modern Fancy Fair which invariably meets with the greatest success. Indeed, every effort will be made to deal exhaustively with all subjects which can come under the head of "Bazaars and how to decorate them."

When it has been decided to hold a Bazaar, and when it is definitely assured that the object is beyond reproach, the first matter is to gather together an influential Committee of well known ladies and gentlemen who are thoroughly interested in the idea, and who have a certain amount of leisure to devote to the work. The next step, and it is no less an important one, is to secure an energetic gentleman to act as Honorary Secretary. It very often happens that in the circle of those who are promoting the Bazaar there is *one* man who is capable in every respect to fill the post, and no stone should be left unturned to procure his services. A Secretary is the life and soul of every institution or society, and on a Bazaar Committee his importance cannot be over-estimated. He is the centre round which the whole arrangements revolve, the man to whom everyone looks for information and advice. He certainly should not be overburdened with responsibility—especially if the Bazaar is not so complete a success as was anticipated; he cannot make the people attend, nor can he compel them to empty their purses when they do come, but he is at least the main-spring of the movement, and can conduct the proceedings with such tact and ability that any chance of failure is all but impossible. It is necessary that this Secretary be a man who has plenty of spare time at his disposal, as during the Bazaar, and for several days beforehand, he will have little opportunity for attending to any other matters. He should, moreover, be one in whom all the members of the Committee can have every confidence, and with whom they will work amicably. Failing this, all sorts of hitches will inevitably occur, and the success of the Bazaar cannot but be gravely imperilled.

A Treasurer must also be elected, and here it

should be understood that, in making a good choice, more than the apparent question of "honesty" should be considered. Honesty is a quality which may be taken for granted, but our Treasurer must be a lady or gentleman who will not only keep the accounts in good order, but will use every effort to gather in subscriptions, and at the same time retain a firm control over all outlay. Mis-management in finance may bear even more serious results than secretarial blunders.

At the first meeting of Committee, a preliminary programme should be drawn up, and Sub-Committees with efficient Conveners appointed. A special Ladies' Sub-Committee is an absolute necessity. Men may be capable of doing many things without gentler aid, but in Bazaar arrangements they will commit a grave error if they refuse to entrust certain departments entirely to the supervision of ladies. The lady Conventer must be a person who is hardly less enthusiastic and energetic than the Secretary, as in many ways she acts as his under-study. At this meeting the hall must also be decided upon. On this point it is almost useless to throw out suggestions, as often there can be little choice in the matter. If, however, there happens to be a selection, three questions should be considered—locality, cost, and adaptability to Bazaar purposes. If a hall which bears critical examination on all these points can be hired, its minor faults may safely be overlooked; and if none in the neighbourhood exactly answer the necessary requirements, the cheapest and most conveniently situated one should be fixed on.

It is usually desirable to raise a guarantee fund which will be sufficient to cover the initial expenses. In every case this may not be necessary, but if there is any uncertainty as to the extent of patronage which the Bazaar is likely to receive, common prudence will suggest this safe-guard to most Committees of Management.

A brief but concise circular should be drawn up and sent to all persons of influence in the district. In it the object of the Bazaar should be stated clearly and without any extravagant display of sentiment. Subscriptions, of course, must be asked for, not necessarily in money (though no cheques will be refused!) but also in any articles for sale which the donors may be able to make or supply.

If the Bazaar is of sufficient importance, it is desirable to prepare an attractive book-programme which will give full information not only as to the purposes for which the Bazaar is to be held, but also as to the proceedings—Stalls (with number and description), Entertainments, Shows, Bands, and any other special features which are expected to act as a "draw." Fancy sketches always enliven such a programme, and should be included if possible. No doubt the services of some amateur artist could be procured, and a few suitable pen and ink illustrations thus obtained. (The Editor of *Hobbies* would be pleased to supply blocks for printing purposes at any time, if desired). It is a good plan to print off a few specimen copies of this booklet with blank pages, and place them in the hands of canvassers who will secure advertisements from local tradesmen and others. By this means the programme will not only

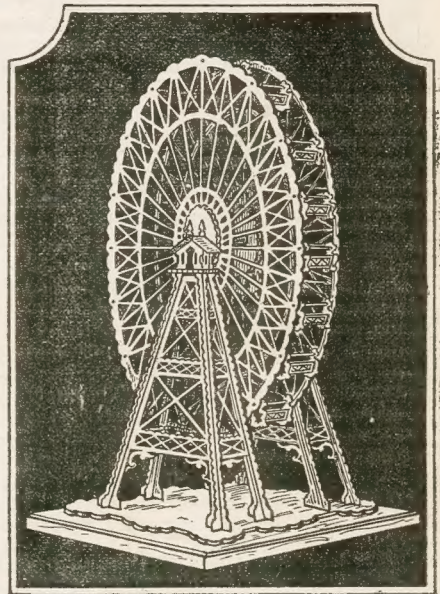
more than pay itself, but will serve as a capital advertisement for the Bazaar.

These little items of advice may be uninteresting, but they are necessary; and with Bazaars all the preliminaries must be gone into earnestly and methodically before the lighter and more enjoyable work of fancy decoration is taken up.

(To be continued).

Latest Fretwork Design.

THE GREAT WHEEL, Price One Shilling.



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This Design is entirely of Fretwork, no framing being required; it may be cut with the ordinary saw, and all the constructive parts are so arranged that any amateur can fit them together. The Wheel revolves, and all the Cars are provided with Spindles on which they hang gracefully. The Pattern is printed in two large sheets, and full instructions for cutting out and setting up are given.

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PHOTOGRAPHY

for Amateurs

NOTES OF THE WEEK.

IN a journal devoted to HOBBIES Photography naturally finds a place, and it is intended to devote a considerable section to the subject. The services of an efficient staff have been retained, who have had long experience, not only in Photography, but in Photographic journalism.

Photography is a hobby which appeals to all classes of society, rich or poor, young or old. It has fascinations in the field and at home; it is a practical and useful hobby. The uses of Photography, outside its delights to lovers of nature and those of an artistic turn of mind, are so numerous, that in almost every walk of life, professional or commercial, a knowledge of how to Photograph may be turned to practical account.

In these columns we shall keep our readers up-to-date with notes upon all that is being done in the Photographic world, what new processes are being brought out, the latest improvements in Apparatus, and give short critiques upon Photographic Exhibitions, Societies' meetings, etc. The making up of home-made Apparatus and Accessories for the dark room and the studio, the home-sensitising of paper, printing methods, mounting, framing, &c., will be also dealt with. Advice will also be given as to the best books to buy, and the best places to go to on holidays and Saturday afternoons, and how to get to them.

Prize competitions of a simple character will be introduced from time to time in order to encourage those who are taking up Photography; prizes will also be given for short essays on Photographic subjects. A query and answer column will be arranged, correspondence will be encouraged, and the staff will be glad to criticise negatives and prints, and to advise upon any subject connected with Photography.

Photography is advancing by leaps and bounds in Japan, and the enterprise that the nation has shewn in so marked a degree in the government of the country is reflected in Photographic matters. For some time past a monthly Photographic journal has been published in Tokio. This was until very recently printed wholly in Japanese characters; now however, under the able editorship of Y. Isawa, quite one half of the subject matter is printed in English. The number before us contains many useful

articles and much news. "Pin-hole Photography" by the Editor is a complete *resumé* of all that has been said or written upon the subject.

The evidence given before the Compressed Gas Explosion Committee tends to show that neither the manufacturers of gas cylinders, nor the suppliers of compressed gases, have the slightest objection to their establishments being placed under government inspection.

Those readers of *Hobbies* who intend to take up Optical Lantern work in the coming winter season should lose no time in procuring a copy of the "Handbook on the Use of Compressed Oxygen," by Kenneth S. Murray (Ede, Dewbery, & Co.) This little book gives every possible information, and is written clearly and succinctly; the intending operator will also do well to buy "The Lantern Slide Manual," by John A. Hodges (Hazell, Watson, & Viney).

"Process" Photography has lately come very much to the front, and we notice that at the exhibition being held in the Leeds City Art Gallery, under the auspices of the Art Gallery Committee, a section has been arranged for Photo-Mechanical Processes. In this section there are five classes, viz.:—1—Intaglio work, Line and Half-tone; 2—Half-tone work, Surface Printing with Screen; 3—Half-tone work without Screen; 4—Line work, Surface Printing, and 5—Colour Processes of all kinds. Silver and bronze medals will be awarded as well as in the section devoted to General Photography.

We have just had a very positive proof of the popularity of Photography abroad, and the enterprise displayed by the executives of Photographic Societies. The Capetown Photographic Club have an Annual Photographic Competition. This year they honoured the writer by selecting him to adjudicate upon the work sent in, forwarding all the Photographs to England. The work was of a high standard, both as to technical worth and artistic merit.

Messrs. Ross & Co., of Bond Street, have just completed and put on the market an Arc Electric Lamp for the Optical Lantern, the invention of Mr. Cecil M. Hepworth, a young man of great promise. It has all that is necessary for raising, lowering, centring, or tilting the light, is handy in form and beautiful in construction. By its aid the arc is under the most complete control. There is no doubt that it will be largely used. It has been fitted to the electric lamp at the Camera Club and is giving much satisfaction.

We note that Messrs. Cadett & Neall are about to put a new plate on the market, to be called the "Spectrum," an automatic plate which it is claimed will render correctly "all colour values." It is intended to make them of two rapidities, slow and extra rapid. The well-known quality of the "Cadett" plates will be quite a sufficient testimony to cause many to give the "Spectrum" plate an early trial.

The secretary of a Photographic Society's exhibition calls attention to a special class open only to those who have never taken an award in any open competition. In this case all "medal potters" will be shut out.

The Photographs exhibited at the Royal Photographic Society and the Photographic Salon are exceedingly well spoken of for evenness of work, but in neither exhibition does there seem to be any "sensation" work. Photography for exhibition must be of a high class,—but a certain level reached, it is difficult to get beyond. There is doubtless much improvement in all the mechanical methods of reproduction of Photographs. Little advance, however, is being made in portraiture. Only recently we have had before us several portraits taken at different times by the same professional Photographer, and in each one we found as an accessory—a very unnecessary one in our opinion—a miserable plant of the palm variety. In one case a leaf is clutched, in another the sitter is gazing at the palm, another it is at the feet, another at the side, and so on *ad nauseum*, always in the way, never pictorial, but quite out of place. Sitters can do something to resist this state of things. The professional Photographer has, with few exceptions, no originality. Every sitter is posed and lighted upon the same rule, with the result that but few Photographs give satisfaction. This is due entirely to the fact that no trouble is taken to study composition, light, and shade, far more important subjects than constant experimenting with new developers, toners, &c.

Messrs. J. W. Wilson, Aberdeen, have just issued their season's Catalogue of Lantern Slides. It is illustrated and comprehensive.

Here are a few lines by Mr. Chapman Jones, F.I.C., F.C.S., which Photographers may well take note of:—"With a good plate and a suitable developer, a well-lit object ought to furnish a brilliant negative; if it does not, then it may be taken as a matter of course that there is extraneous light acting upon the plate. We fancy that, at least sometimes, fogging is supposed to be due to the character of the plate, and more bromide is added to the developer, when in reality it is due to false light, which ought to be discovered and as far as possible got rid of."

New South Wales can claim to have produced the largest Photograph in the world. Chicago did hold the record, but at the recent annual show of the Royal Agricultural Society, at Sydney, a Photograph measuring 26 feet 3 inches long by 3 feet 10 inches wide was exhibited. The American Photograph was only 24 feet long.

We note that the "Gem" Dry Plate Company, Limited, have just increased their capital by an addition of £3,000, and have put down an extra coating machine, and extended very considerably both their factories and laboratories. Mr. T. E. H. Bullen is the managing director.

PRIZE Competitions

It is our intention that all Competitions which will be announced from time to time in this column shall be decided by the skill or ingenuity of the Competitors, and not be in any way dependent on chance. Prizes will be given for Articles of Fretwork, Carving, etc., Designs, Sketches, Photographs, Essays, and numerous other subjects which will be stated in due time. The Prizes offered will take the form of Cash, Fretwork Machines and Outfits, Cameras, and other articles.

FRETWORK.

We hope later on to offer a valuable Prize for the best Fretwork Model made from the St. Paul's Cathedral Design which we are presenting to annual subscribers, and which is fully described on page 13. Meanwhile we offer Three Prizes for the best Midget Photograph Frames made from this week's Presentation Design:—

First Prize, A Treadle Fretwork Machine, with Nickel Plated Tilting Table, Dust Blower, and Emery Wheel.

Second Prize, A Finely Nickel Plated and Polished 14-inch Hand Fretsaw Frame.

Third Prize, One Gross of the best Fretwork Saw Blades.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to Competitors. The Frames, for example, may either be polished or left plain. All Frames should be packed securely, in a cardboard box if possible, and must have the name and address of Competitor clearly written on a label which must be securely attached to the Article itself. Frames sent in for Competition will be returned, if desired; for this purpose a fully addressed and stamped label must be enclosed. In no case can Articles be returned unless sufficient stamps are sent to cover postage. Parcels should be marked "Frame," and must be received at our office not later than November 23rd.

PHOTOGRAPHY.

We will give every month a prize of Ten Shillings for the best Photograph, not to exceed 7½-in. by 5-in., and Five Shillings for the second best. The choice of subject is left entirely to the Competitor. Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies*, if thought desirable. Photographs for Competition will be received up to the last day of each month, and those for the first Competition must be sent to our office not later than November 30th, marked "Photo."

LANTERN SLIDES.

For the best Pen and Ink Sketch of a set of three original humorous Magic Lantern Slides we will give Ten Shillings, Five Shillings being awarded to the second best. The subjects are left entirely to Competitors. Sketches should be full size, and should be drawn in Pen and Ink only. The Prize Sketches, if of sufficient merit, will be reproduced in *Hobbies*. Mark "Slides," and send in by December 7th.

BAZAARS.

Two Prizes of Ten Shillings and Five Shillings are offered for the best suggestions for a Bazaar Side Show. In deciding this Competition the novelty and practical character of the suggestions will be chiefly taken into account. Paragraphs must not exceed 200 words in length, and must reach us by November 16th. The Envelope should be marked "Bazaar."

NOTICE TO COMPETITORS.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.

BENT IRON WORK

CHAP. I.—MATERIALS.



THE Art of Bent Iron Work has been borrowed chiefly from the Venetians, and is now so widely patronised amongst amateurs that a few explanatory chapters on the subject will not be regarded as altogether superfluous. However, it must be stated that these instructions can do little more than merely throw out some hints to beginners and others. Bent Iron Work, like everything else, requires practice. The summit of Ben Nevis is not reached by studying a tourist's guide book, and Brackets or Lanterns cannot be made by sitting down and reading a Bent Iron Work Manual. At the same time a few practical suggestions on the general work may be of great value, and this encouraging idea lends inspiration to any writer on the subject.

Bent Iron Work is simply Wrought Iron Work on a small scale—on an amateur scale one might say. Instead of using a forge, bellows, and anvil, the strips of Iron may be coaxed into agreeable form by the persuasive eloquence of Pliers—flat and round-nosed. The worker is not called upon to swing a heavy sledge, and there is no particular necessity for the muscles of his brawny arms being “strong as iron bands.” What amateurs chiefly want are neatness and quickness of handling, and a certain strength in the finger joints, which, if at first wanting, will soon be acquired with a little practice. In this short series of articles, after describing the general mode of work, forms of curves, methods of fixing, etc., it will be more interesting to the reader if one or two characteristic Patterns are dealt with, and in this way it is easier to give definite hints, which are always more instructive than mere generalities.

Before any Bent Iron Work can be done, the amateur must have his set of Tools. These at first do not call for any extravagant outlay. When the reader becomes an expert in the Art he can afford a few extra commodities, which will help to lessen his labour and give a better result.

Firstly, as to the actual material. Strip Iron is bought by the pound, varying from sixpence to tenpence, according to width. The narrow strips are dearer, as there is naturally a greater number of lengths to the pound. The width varies from one-eighth to one half-inch; the thickness, roughly speaking, is about one thirty-second, or one forty-eighth of an inch (it is not necessary to puzzle the reader by quoting the *wire gauge*), and the strips are usually two feet long—a convenient average size.

Bending Pliers are of two sorts, flat-nosed and round-nosed (Figs. 1 and 2). The amateur will find that it is better to have two pairs of each—long flat-nosed and short flat-nosed, long round-nosed and short round-nosed. Flat Pliers are used for general work, for clasping collar-bands, etc.; while round ones are necessary for turning the fine ends of spiral curves, and for all small and delicate twisting. The desirability of having two pairs of each is owing to the frequent necessity of using two of the same sort at one time, and as ninepence or a shilling each will cover these the outlay is not much. A pair of heavy Pliers is very useful for holding the Iron firmly while the small tools turn the scrolls; and an ordinary pair of Pincers (Fig. 3) will come in handy for numerous purposes. The heavy Pliers may be Wire-cutters, and will thus serve a double end.



FIG. 1.

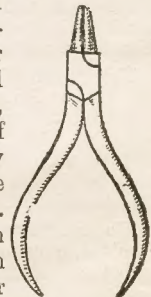


FIG. 2.



FIG. 3.

A pair of strong Shears (Fig. 4) complete the list of this class of tool. These Shears must be large and heavy, as they are sometimes called upon to do rough work.



FIG. 4.

Two shillings is an ordinary price, but an extra sixpence on them would not be mis-spent.

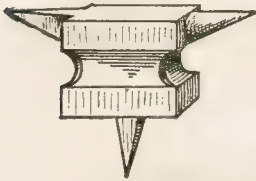


FIG. 5.

A small Vice is rather necessary ; and, if the reader does not grudge it, a miniature Bench Anvil (Fig. 5) is recommended. This last item, however, is perhaps a luxury, and a piece of Iron plate screwed to the table will serve as a substitute.

Drilling Machines do splendid work, but are expensive ; and for ordinary purposes a couple of small-sized Bradawls will do. A Marking Awl (Fig. 6) or a Rimer may be employed for



FIG. 6.

enlarging and smoothing the holes.

A well-balanced Hammer must be included, and also one or two Files. Some Tin Rivets should be secured, and if Steel Bolts and Nuts can be had of a very small size they will be found indispensable for special articles where extra strength is required.

Sheet Tin is useful ; but no expense need be incurred here, as any old mustard tin is all that is wanted. The tin is easily cut with the Shears, and in many cases it is much more suitable for collar-bands than the Strip Iron.

A Soldering Bolt and some fine Copper and Brass Wire might be added to the collection. The latter is often useful for holding scrolls in their proper positions while clamping or riveting is done.

Black Paint is the last requisite. Do not use Enamel, or what is called Brunswick Black, or anything bright. A dead, dull black is wanted, and can be procured specially for Iron work. It should be applied with a somewhat hard Mop Brush, and should not be laid on too thickly. A rub up with Chamois leather helps to heighten the effect.

This is, perhaps, a long list of tools, but it is by no means advisable for the reader to go in for everything at once. Let him begin in a small way with Pliers and Shears, and as he gains skill and experience he will then know what particular tools suit his purpose best. Everyone has his own particular taste, his special method of working, and what is found suitable by one is perhaps scorned by another. A very little actual practice is much more instructive than all elaborate explanations.

If the reader be a lady it may gently be suggested that for Bent Iron Work an old pair of gloves should be donned. If the notion is indignantly repelled an apology is instantly offered for even mentioning such a thing. But it must be remembered that Iron is much tougher than a delicate white skin, and the latter has occasionally a tendency to give way before some unforeseen action on the part of the former. In cold weather bruises and scratches are particularly noticeable, and what with the sharp edges of the Iron, the biting nips of the Pliers when they clasp one's finger instead of the collar, the erratic journeys which the Shears persist in taking, and sundry other incidents of the work, the Art of bending Strip Iron is now and then disastrous to the fingers which practise it. However, if the worker is not greatly given to self-laceration, he or she will certainly find much more freedom of action with an ungloved hand.

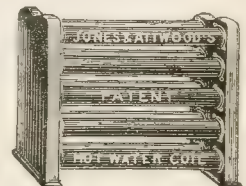
(To be continued.)



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TO OUR READERS.



WE are glad to think that little explanation and no excuse will be necessary in offering to the public the first number of *Hobbies*. The field of journalism has been so thoroughly covered during the last few years that the promoters of a new weekly paper

are indeed fortunate if they can discover ground which is not already occupied or not uncomfortably crowded. We have therefore, we feel, cause for congratulation in the fact that *Hobbies* is a copy of no existing paper. It strikes out a new line of its own, and appeals to the innumerable people who follow some favourite occupation in their leisure hours. The conductors of *Hobbies* will spare neither labour nor expense to deserve and secure for the journal a cordial welcome and support from this inexhaustible class of readers.

It is but very rarely nowadays that one encounters a person who does not possess a hobby of some kind, and this statement applies with equal truth to individuals of either sex. The spare time of one will be occupied in the pursuit of Amateur Photography; the leisure of another may be passed in the practice of Fretwork or Carving, or some other of the numerous branches of Art Work in wood and metal, which have recently achieved so widespread a popularity. Others seek relaxation from business cares in the collection of Postage Stamps, an occupation which, if seriously and judiciously pursued, yields in interest and fascination to no other form of home recreation. Electricity, too, offers a boundless field of pleasurable work to the ingenious Amateur, and a page might easily be filled by the mere enumeration of hobbies which may be recommended for the pleasant and profitable whiling away of a leisure hour.

All subjects of this kind will be dealt with by us in a clear and interesting manner, nor shall we overlook the requirements of the numerous practical people who desire to make a financial profit even out of their amusements. Full and carefully-illustrated series of articles will be published upon Fretwork, Chip and Relief Carving, Bent Iron Work, Photography, and subjects of a kindred nature; and we shall also give clear and minute instructions which will enable readers who feel so disposed to take up and successfully follow one or other of the many hobbies which may be made to pay. The Photographic Department will be conducted by a well-known photographic journalist, whose varied and extensive experience eminently qualifies him to guide and advise Amateurs who seek to attain proficiency in an art which is no less interesting than useful. Another important feature will be the Department for Stamp Collectors, which will be directed by one of our best known Philatelists, and it may perhaps be mentioned that *Hobbies* is the only paper in the United Kingdom which gives a weekly stamp article of this character. In the present number we publish the first of a series of

illustrated articles on Bazaars and Fancy Fairs, in which every detail of organisation, decoration, and management will be exhaustively dealt with. The articles are written by a gentleman of exceptionally wide experience, and who, indeed, was the originator of the modern Fancy Fair. We are confident that their interest will be only equalled by their incalculable value to all who have anything to do with the promotion or conduct of Bazaars.

A comprehensive scheme of Prize Competitions has been arranged, and announcements on this subject will be made from time to time. We would also draw special attention to the fact that a valuable Supplement will be presented each week with every copy of *Hobbies*. This will consist of an artistic and full-sized design for Fretwork, Carving, or Bent Iron Work, or working drawings of some article described in our pages. In no case will the market value of the Presentation Supplement be less than threepence, and as we are confident that the journal itself will be considered cheap at the price of publication, it will be seen that subscribers will invariably receive *four times the value of their weekly penny*. All the designs thus given away will be the work of artists of exceptional originality and skill, and we anticipate for the *Hobbies* Series of Designs a wide and general popularity.

Communications from our readers will always be welcomed, and all suggestions or criticisms will be carefully considered. Our great aim is to make *Hobbies* not less helpful than interesting, and with this object we shall be only too glad to secure the co-operation of our subscribers. *Hobbies* is in every sense of the word a new paper, and it is our earnest desire to make it as bright and useful as a paper of the kind could possibly be. All letters should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

Astounding Offer TO OUR READERS.

SEVENPENCE for every PENNY!

FURTHER PARTICULARS NEXT WEEK.

We are now completing arrangements which will enable us to make to our readers an offer which is absolutely without a parallel in the history of Journalism. The result will be that every purchaser of a copy of *Hobbies* will receive at the very least seven times the value of his Penny! We shall give further particulars in our next issue, and we hope to have the scheme in full operation in two or three weeks' time.



A FRETWORK MODEL OF ST. PAUL'S CATHEDRAL.



TO make a Fretwork Model of St. Paul's Cathedral seems rather a gigantic undertaking. A Design has, however, been prepared, placing within reach of all amateurs an accurately proportioned miniature, which may be worked out by any one who has had a moderate experience in Fret-cutting, and who has time and patience to devote to the task. The Model, roughly speaking, is drawn to a scale of about one two-hundredth of the size of the actual edifice, the total dimensions, not including the stand, being

32 inches long, 21 inches wide, and 22 inches high. So far as the material would permit, care has been taken to keep the correct proportions, and at the same time to suppress all unnecessary elaborations.

It is possible that the worker will be dismayed by his first glance at the Design. The Pattern is printed on six sheets, the Diagram figures are 94 in number, and the individual pieces when cut out reach a total of over 250. Thus the whole idea can hardly be grasped at once. Any confusion, however, is only momentary, and the drawings are lettered and figured with such care that the exact position of each piece will soon be found.

At the outset the worker must fully understand that it is a *Model* which he is about to make, and not an ordinary Fretwork ornament. There are neither intricate nor delicate pieces of work to saw, nor has any Inlaying to be encountered. The Pattern, being architectural, is necessarily severe; there are many straight lines and geometrical curves, and what is required is a special endowment of patience in order to preserve extreme accuracy.

The first piece to cut is the floor (Fig. I.). Half of this is shewn on the Pattern, and directions are given to saw it in four sections. If, however, the fret-worker could see his way to cut it in only two pieces, the Model would be much stronger, and any chances of error greatly lessened. When cut, the dotted lines which indicate the position of the walls should be drawn on, as they serve as a guide when fitting together. In doing this the greatest care must be taken, every size should be tested, and each line ruled with a straight edge. The roof (Fig. LXXXVII.) is treated in a similar way, and should be cut in two pieces if possible.

In building up the walls the principle is the same throughout, and when this is understood the difficulty will merely be in fitting the pieces neatly together.

Each portion of wall is practically in three layers—(1) the background of White Chestnut, (2) the Mahogany Overlay piece which suggests pillars, architraves, etc., and (3) the extra Overlay Chestnut slips which indicate cornice, stringing-band, and base. For example, take the end wall "J." Fig. LIX. is the main portion, out of which are cut six windows. Fig. LX., when sawn out, is laid on Fig. LIX., giving it an architectural appearance, and throwing the whole wall into relief. Figs. LXI., LXII., and LXIII. are overlaid on Fig. LX., their positions being seen by the dotted lines. The Diagrams A, B, and C, shewn here, indicate the three stages. The

façade has an extra Overlay piece to suggest the principal entrance, and the two transept walls "G" have a small pillared portico with a flight of five steps, but all the sides are constructed on the same plan. Thus there is no difficulty so far as the actual Fretwork is concerned; but it must be frankly admitted that the task of fitting and joining is no easy one, and a good result can only be obtained by patient labour.

With every piece the size should be measured before any cutting is done. All elaborate work is liable to show slight inaccuracies, and these can only be prevented if this matter is attended to. The window openings of the inner walls should not be cut out until the overlay pieces are finished, as it is desirable to have them exactly in the centre of the architrave ornaments.

It will be seen that all the notches and holes are numbered, and there can consequently be no difficulty in at once seeing the position of each piece. If these numbers are compared closely there can never be any excuse for confusion.

The principle on which the dome is built is simple and yet effective. It can be constructed separately, and then screwed to the Cathedral roof. The Diagrams are so clear that no hints are necessary, except the everlasting recommendation to work *carefully*. As the dome itself is in 58 pieces, many of them very small, neatness and dexterity are specially called for, and a good deal of time must be spent in fitting up. The front towers may also be made detached, and afterwards fixed to the roof. Each is in 20 pieces, but the work will give little difficulty. In the right hand tower provision is made

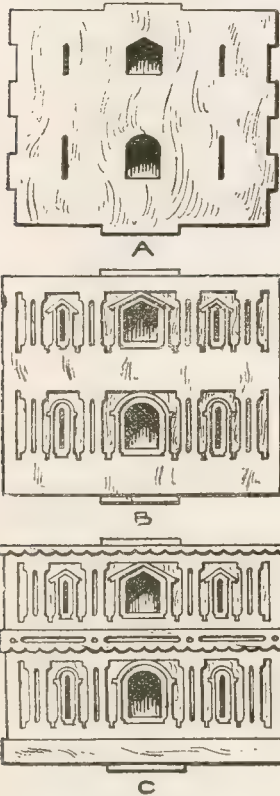
for a watch dial or for a small clock.

The whole Model requires a considerable amount of wood, but one great advantage is that there need be practically no waste. Most of the pieces are of a regular shape, and there are so many small bits that all odd scraps may be used up.

When finished the Model should be left unvarnished. It must be mounted on a solid stand, which can either be of polished or ebonized wood. It will be found better to place it fairly high up, so that the eye does not look down on the flat roof. The actual Cathedral is seldom viewed from a high level, and the Model will have a more satisfactory appearance if the line of vision is kept rather low.

Although there may be no exceptional difficulties to be met with in this Design, youthful amateurs who still work with the hand-saw are not advised to attempt it. The Model, even with a good-running treadle machine, will take some time to cut, and a hand-saw worker would despair of ever seeing his task completed. However, any more advanced amateur, who possesses a little ability and a good deal of patience, need not hesitate to undertake it.

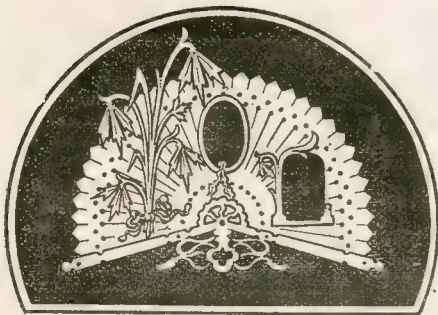
Before the sheets of this Design were printed a Model was made and can be seen at the Amsterdam International Exhibition, where it is at present on view. As will be seen in another part of our issue, we are presenting a complete copy of this Design to everyone sending us 6/6 for a year's subscription to "Hobbies."





No. 1. MIDGET PHOTO FRAME.

Each week it is our purpose to present our subscribers with a special Supplement, consisting of a full-sized Artistic Design for Fretwork, Carving, Bent Iron, or similar work. Below we give a miniature representation of a Design for an Overlay Midget Photo Frame in Fretwork, a copy of which will be found in the present number.



This small Pattern when cut out makes a very effective ornament, and as thin wood is required two or more Frames may be done at one cutting. For the Frame itself $\frac{1}{8}$ -inch wood should be used, either solid or 3-ply, although the latter is recommended in case of accidents by splitting. In the fan the small holes are simply drilled and then carefully cleaned out. The straight lines are done by one cut of the Saw; for this a thick Saw should be used, as otherwise the lines would hardly be noticeable.

For the Overlay ornaments, which are shown in their relative positions, veneer wood $\frac{1}{16}$ -inch thick (not less) will be sufficient. For fixing on these pieces only the best glue should be used; if carefully applied nothing in the way of nails will be necessary. It would be advisable to postpone cutting out the photograph spaces until the Overlay slips have been glued on. Thus by doing both at once a perfectly sharp and

clear edge may be secured. The support will hold the Frame at a convenient angle; it must of course be fixed on very firmly.

With regard to material, White Chestnut is certainly the favourite wood to use for the Overlay pieces. Being close-grained it does not easily break, and its ivory-like appearance makes it specially advantageous for this class of work. Indeed, a Frame of White Chestnut entire is very effective. To most people, however, variety is preferable; and for a good though mild contrast we would suggest for the fan background any richly-coloured wood, such as Orange, Padouk, or even Pencil Cedar. As White Wood invariably looks best in its pure state, the fan may be varnished or polished before the overlay pieces are fixed. In this case great care must be taken not to spoil the work.

The Pattern is equally well adapted for either Treadle Machine or Hand Saw.

[Additional copies of this Design may be had, price 3d. each, on application to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The presentation Supplements will be given during the current week of publication only, and will not be supplied with back numbers of *Hobbies*.]

No. 2. "APHRODITE" BRACKET.



The above sketch is a miniature of the full-sized Pattern for Fretwork Wall Bracket, which will be given away with each copy of next week's issue of *Hobbies*.

OUR CORRESPONDENCE PAGE.

*. We wish the Correspondence Page of *Hobbies* to be both useful and attractive, and this can chiefly be accomplished by readers themselves. Long "Letters to the Editor" will not be inserted, nor is the page to be regarded as a mere Inquiry Column. Short communications of special interest and importance will certainly be published, and every effort will be made to answer questions sent in by readers; but as space is necessarily limited, we cannot afford opportunities for lively discussions and controversies, nor can we attempt to reply to queries which are either outside the range of *Hobbies* or of purely personal interest. We cordially invite hints and ideas with regard to *Hobbies*, and whether letters are published or not we shall always be pleased to hear from our readers. Communications should, when possible, be written on Post Cards, and should be addressed to the Editor, *Hobbies*, Bouverie House, Salisbury Square, London, E.C. In no case can we reply to enquiries by post.



CHAP. I.—VARIOUS LANTERNS.

THERE is probably no Hobby that will afford more pleasure and instruction to others than the intelligent use of the Magic Lantern. In years gone by the Lantern was considered a mere toy relegated to the nursery, except on birthdays or at Christmas time, when a clumsy affair was sometimes introduced as an attraction, but only too often, owing to the smoke, soot, and "horrid smell" from the badly-burning oil lamp, was ignominiously ejected from the house. The exception to the toy Lantern was the paraphernalia of the professional lecturer, who took about with him apparatus for the manufacture of oxygen gas, two huge indiarubber bags to hold the gases, pressure boards and weights, poles and fittings for the screen, and lastly, a two-barrelled or three-barrelled Lantern, very heavy, very large, very full of brass and glass, the whole contained in a case that two men could hardly lift. Such gear might well be termed "impedimenta."

Photography has changed all this, and more especially, Amateur Photography. Twenty-five years ago we venture to say that not a Slide had been made from photographic negatives that would to-day be tolerated at a Lantern exhibition. The public are not satisfied with "Soot and Whitewash" Slides; and the use of painted and crude lithographic Slides are fast being superseded by the beautiful pictures made from photographic negatives, finished in warm lines of sepia, Bartolozzi red, or printed in carbon, which permits of almost any shade of colour being obtained.

To-day the Lantern is the universal educator, and the worker in Photography has ready at his hands a means of affording to others the pleasure derived by himself after visiting "fresh fields and pastures new." Holiday trips may be illustrated—a charm in itself, and one which may be made most interesting to others.

On the other hand those who have not gone in for Photography can obtain Lantern Slides to illustrate almost every place on earth, any Science, Art, Literature, Industry, or Trade; these may be

obtained of such firms as:—Hughes, Newton, Pexton, Tyler, Valentine, Watson, Wilson, Wood, York, and others.

In the lecture hall and college, Slides are rapidly taking the place of the costly diagrams; costly not only in the preparation, but also in the use and storing. The Lantern can with but little ingenuity be adapted for use in daylight. A very simple means may be adopted for screening off the light near the Lantern, and if care is taken that no direct daylight shall fall upon the screen, and that the Lantern shall be so arranged as to allow only the beam of light projected by the lens to illuminate the screen, the result will be most satisfactory. The whole of the students will be able to see and follow the explanation of the lecturer, making their notes at the same time, and the lecturer will have the Lantern completely under command.

There is now but little difficulty in obtaining Lantern Slides illustrative of most standard educational subjects. Messrs. George Philip & Son, of Fleet Street, in conjunction with the "Teachers' Guild of Great Britain," the "Head Masters' Association," and "Geographical Association," have formed a library of Slides suitable for class purposes, and which may be obtained upon very reasonable terms. At many of the Technical Schools it has become the practice to make Slides of the illustrations, tables, &c., in text books for the use of master and lecturer. We had recently before us a set of Slides illustrating carpentry and joinery. In this case the Slides were from photographic negatives taken by flashlight. Not only were the tools and their uses illustrated, but the forms of jointing, tongueing, grooving, mortising, &c., were illustrated by photographs from the actual work.

As an entertainer the Lantern cannot be surpassed; it is the delight of old and young, rich and poor, and at an exhibition the fewer words said the better. As a matter of fact the clown's remark at the circus, "Cut the dialogue and trot out the 'osses," is most applicable to Lantern Slide exhibitions. Any lady or gentleman with 50 or 100 Slides has the means at hand to afford amusement and instruction to hundreds.

In these articles, we shall, because the season is upon us, take in hand first the Lantern and its accessories, then the preparation for an evening with the Lantern with hints upon lecturing, and afterwards will give concise instructions for the making of Lantern Slides from photographic negatives.

THE LANTERN.

Lens may be of Tin, Russian Iron, or Wood lined with Russian Iron. The illuminant may be oil, limelight (oxygen and hydrogen or coal gas), ether-oxygen (ether vapour in place of hydrogen), coal gas (incandescent gas burner) or the king of illuminants—electric light. The Lantern for limelight, ether-oxygen, or electric light may have one, two, or three projection lenses, and such Lanterns are termed "single," "biunial," and "triunial;" the two latter are worked in series and with dissolving effect. With Lanterns illuminated with oil or incandescent gas burners, two Lanterns may be worked side by side, and the dissolving effect obtained by means of an attachment.

There are many makes of Lanterns. A good Single Lantern in Russian Iron, for oil, with a three or four wick lamp should not cost more than say 40s. to 50s. A Single Lantern made in mahogany with brass mounts fitted for oil or limelight will cost from £3 10s. to £6 complete. Biunial Lanterns range from £8 to £25, and Triunial from £15 to any price; these are generally built to order and to a specification.

The parts of a Single Lantern are:—The Body. This must be strong and so made as to allow of as little leakage of light as possible. All the light should pass through the Condenser.

The Condenser. Some operators prefer a Condenser $3\frac{1}{2}$ inches in diameter, but although this may possibly give a slight advantage in the matter of illumination, it necessitates a smaller portion of the Slide being shown. The general size of Condenser is 4 inches. It should be of such form as to gather together all the light rays emitted by the illuminant. These concentrated in the Condenser are projected through the Lens.

The Lens, or Objective. Nearly all makers supply a Lens of a suitable kind with the Lantern. Lenses are of different foci and so govern the distance that a picture may be projected and the size of the disc or image on the screen. This matter of projection will be treated in a special chapter.

The Lamp. In a Single Lantern the oil lamp should not have less than three wicks, but one having four is to be preferred. Great care must be exercised in filling and trimming the wicks before using the lamp, and after seeing that the outside of it is perfectly clean and free of oil; light the wicks and let them burn for some time before putting into the lamp, then extinguish, and with a sharp knife cut off quite straight along the top of the burner the surface of the wick that is charred. This will be found to be the best method of obtaining a level flame. The wicks must burn evenly and the combustion be carefully and regularly watched, otherwise the smell and smoke will make the exhibition unpleasant to the audience and intolerable to the operator.

The Chimney. This hardly seems necessary to mention, but with an oil Lantern it forms an important factor in the proper combustion of the flame. All Chimneys are made in two pieces

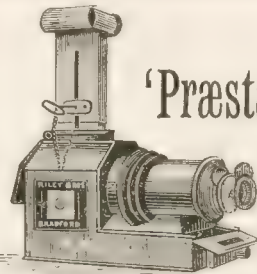
so that they can be used to regulate the draught. So much was this found to be necessary that Mr. Stock has invented an ingenious Chimney for oil Lanterns, which is worked up and down with a rack and pinion in order to regulate the draught. This and his own lamp form, in our opinion, the best means of burning oil in the optical Lantern.

We shall deal with the limelight and its use in the Single Lantern in our next chapter, following on with the incandescent gas burners for Lantern illumination. This system has great promise, and will, if generally adopted, simplify and advance the use of the Lantern very materially.

(To be continued.)

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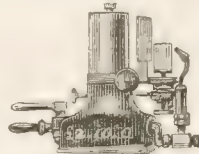
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NOTE.—Trade Advertisements can only be inserted in this page at the rate of one shilling per line.

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Hobbies that Pay.

* Before going into any details on the profitable handling of all subjects that will come under the title "Hobbies that Pay," it may be stated that an Expert has been specially arranged with to give the readers of *Hobbies* advice and information of a practical nature about Poultry, Bees, Rabbits, Dogs, Horses, Pigs, Cage Birds, and Fancy Stock; also on all matters relating to Land, Allotments, Gardening, Trees, Plants, Flowers, Fruit, Vegetables, and on all home and outdoor Hobbies that are of a profitable nature. Replies to queries will be made as generally interesting as possible. It may be as well to say here that we intend to develop the practical side of these and other paying hobbies, and that we shall spare no expense in securing the best practical assistance for the benefit of our readers.

PROFITABLE POULTRY.

NON-SITTERS.



OME hobbies have made fortunes before to-day. Hobbies do not always pay, however, and some hobbies are silly. As a rule the steady-going man who has a home has also a hobby, and it is generally something that he has taken up simply for amusement. Such hobby-riding cannot be called silly,

but there are hobbies that are a step above these harmless amusements, although not in themselves sources of income. There are others that are by their very nature of a paying or remunerative character, and it is about such that this series of articles will be written and illustrated. The aim here is to put money into the pockets of those who take up with and seriously and perseveringly carry out any one of the hobbies referred to.

Home and outdoor amusements that can be made to pay well are numerous. They include keeping Stud Dogs and other animals, breeding Fancy Pigeons and Cage Birds, taming and training British Song Birds, Bee keeping and Poultry keeping, Rabbit breeding for exhibition and for the market, and Goat keeping for the home use and sale of milk; Cows, Pigs, Ponies, etc., also come in under the heading of "Paying Hobbies." In Horticulture may be mentioned as special paying subjects for amateurs—British Ferns, Tomatoes, Roses as cut flowers, and the culture and sale of fruit of various kinds. Cider and home-made wines also command a market. Of a more domestic or fireside nature are such paying hobbies as Wood Carving and the making of ornamental Furniture, rustic work in various materials, and many others too numerous even to mention at present. The hobbyist does best who fixes on one occupation and sticks to it. It is a mistake to try to carry on three or four at once, and thus probably

neglect a legitimate business or occupation in doing so. Let anyone take up a particular hobby that will be written about in this paper, put a whole heart into it and keep to it steadily, and the results will invariably be interesting and remunerative. There must be no dabbling on the one hand, nor any neglect of business on the other. A most encouraging reflection is this, that there is scarcely an invention, scarcely an Art or a Science, scarcely a boon to mankind, but that some hobbyist was its parent.

A SUBURBAN HOBBY,—POULTRY.

Poultry Farming is one of the most practical outcomes of the hobby-rider. It has been clearly proved, however, over and over again, that when handled singly Poultry Farming on an extensive scale is a somewhat risky business. But to the amateur who does all the work with his own hands it can be made as profitable as a little gold mine. It may certainly be a most interesting sight to have a lot of Fowls on one's premises strutting and pecking about, but that is not exactly the thing for the money-making hobbyist. He must work by a time-table, rise early and sit up late, make all his own appliances, feed the stock every meal time or



Small Fowl House.

be sure that it will be done by someone he can trust. He must go in for a special line—fatten Ducklings, Chickens, or Turkeys, breed for exhibiting, keep Prize Hens for selling sittings

of eggs from, or try to put new-laid eggs on the market at a 1d. or 1½d. each every day in the year. "Some one will say, 'That looks like hard work.' Yes, so it does; but the man with a hobby never tires. As Shakespeare remarks—

"No profit grows where is no pleasure ta'en,"

so the rural hobbyist must never find his self-imposed task irksome.

Authorities on Poultry are still uncertain as to whether the Dorking or the Houdan should be regarded as the most profitable species of Fowl. Each has a claim to that position which no other breed can vie with. In Great Britain there are altogether about forty known breeds of Poultry—all more or less good in some particular way, and all having enthusiastic partisans. Naturally, each fancier swears by his own pet variety; but it goes without saying that most of these enthusiasts have only a limited experience, as very few will have had the opportunity of thoroughly testing the capacities and qualities of all (or nearly all) the breeds.

HOUDANS.

The Houdan is singled out here, as of all non-sitting breeds it stands out *par excellence* as the best money-making Fowl, being the one that lays most both in weight and number of eggs.

This breed is of French origin. The Houdan's qualities and characteristics are—excellent as a table Fowl, having small bones and white flesh, and being very rich and meaty; as a layer, much better than the Dorking, producing eggs in greater numbers and of a larger size. The Hens do not sit, and they lay continuously whether a Cock be in the run or not. The points of distinction in this breed are the crest, and the tuft on side of face and under the beak. The Cocks have a leaf-comb. The legs of Houdans are smooth and short; they should be of a blue colour, with a white spot or patch here and there. The foot has fine claws.

Compared with other breeds, Houdans are remarkable for their small eating powers. A Cochins, for instance, will consume three times as much food, and yet will only consent to lay eggs about half the size of a Houdan's. This knowledge is certainly an advantage to the "Paying Hobbyist," whose chief aim is to produce the best value at the smallest possible cost.

To enumerate the relative merits of all the known breeds of Fowls would hardly be suitable for these pages. Any queries regarding particular kinds will be answered in the Correspondence column. In the next paper on "Hobbies that Pay" sitting breeds of Fowls will be dealt with; but meanwhile for a profitable breed on which to rely for the largest sized eggs, and the greatest regularity in winter—when fresh eggs are worth most money—the reader can safely depend on the Houdan.

(To be continued.)

WEIGHT OF A BEE.—Careful weighing shews that an ordinary Bee, not loaded, weighs the one five-thousandth part of a pound, so that it takes 5,000 Bees, not loaded, to make a pound. But the loaded Bee, when he comes in fresh from the fields and flowers, loaded with honey or Bee bread, weighs nearly three times more—that is to say, he carries nearly twice his own weight. Of loaded Bees there are only about 1,800 in the pound. An ordinary hive of Bees contain from four to five pounds of Bees, or between 20,000 and 25,000 individuals, but some swarms have double this weight and number of Bees.

A SUN-HATCHED CHICKEN.—The precocious pullet that starts laying at the early age of four months is now eclipsed by the sun-hatched chicken. This gallinaceous prodigy comes from near Hereford. It is quite authentic, for the *Birmingham Daily Mail* gives it on the authority of one of the city Councillors. He received the news in a letter from the owner of the bird. This is how it ran:—"The heat is tropical. We had a hen hatching in the rickyard, and thinking some of the eggs were added, my wife put them aside under one of the ricks. Passing in the evening, she was surprised to find the sun had hatched out of one of the eggs a fine chick, which is now alive and all right."

LIGHTS AND COLOURS.—It has often been observed that a bright scarlet uniform will, in a good photographic dark room with ruby-glass windows, appear perfectly white. On this subject Herr H. W. Vogel made some interesting communications to the Physical Society of Berlin at a recent meeting. Experimenting with oil lamps provided with pure red, green, and blue colour screens, he found that when white light was rigidly excluded all sense of colour disappeared to the observers, and nothing but shades of black and white could be distinguished on objects in the room. He further found that a scale of colours illuminated by red light shewed the red pigments as white or grey, which abruptly turned into yellow, and not red, on adding blue light. Hence a colour was perceived which was not contained in either of the sources.

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How to make an Electric Scarf Pin.

CHAP I.—THE ACCUMULATOR.



N the following articles an endeavour will be made to show the amateur how, with a little ingenuity and a few tools, he can construct a very effective piece of Electric Light jewellery.

The first thing to be made is the Accumulator. Obtain two pieces of gutta percha, one piece 14 ins. long, 5 ins. wide, and $\frac{1}{8}$ in. thick; the other piece 5 ins. long, 1 in. wide, and a $\frac{1}{8}$ in. thick. Now get a block of wood 5 ins. long, 4 ins. wide and 1 inch thick; plane it smooth and

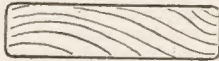


FIG. 1A.

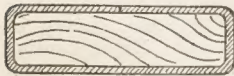


FIG. 1B.

take the rough edges off as shown in Fig. 1A. Then take a piece of the gutta percha 10 ins. long, soften it in hot water, and bend it round the block as shown in Fig. 1B. A piece will be found to overlap; cut this off so that the edges neatly butt. Make a poker moderately warm and run it along the edges so as to render them soft and sticky; then quickly press them together and place a few india-rubber rings round the strip to keep it in position. Cut another strip of gutta-percha half an inch wide and five ins. long, and cement it over the two edges as shewn in Fig. 1C. A useful cement for this purpose is composed of one part pitch and two parts gutta-percha, melted together and applied hot.

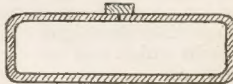


FIG. 1C.

When all the joints have set and are quite hard the block of wood can be removed. Now take the thick piece of gutta-percha, coat both the longer edges with cement, and put it into the centre of the case as shewn in Fig. 2.

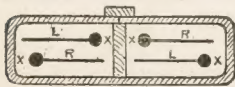


FIG. 2.

and $\frac{1}{8}$ ins. long, cement the surface and press it to the end of the case so as to make a cell capable of holding liquid. When dry the cell must be tested; to do this fill one compartment with water and let it stand for a time to see if there be any internal or external leakage. Should there be so, the hole must be stopped with cement.

The next matter is to procure four pieces of lead, each 10 inches long, $1\frac{1}{2}$ inches wide, and $\frac{1}{16}$ inch thick. In this, cut some holes to form grids, as seen in Fig. 3. These holes should be

$\frac{1}{4}$ in. square, and there must be $\frac{1}{4}$ inch space between each hole. About 1 inch of plain metal must be left at the middle, and $\frac{3}{8}$ inch at each end (Fig. 3 indicates this clearly). Fold each plate in the middle so that the edge presents the letter L. Some lead foil should be procured, and four pieces about $4\frac{1}{2}$ inches long by $1\frac{1}{2}$ inches wide may be cut out and laid aside for future use. Now make two separate pastes of the following mixtures:—No. 1, of Litharge and Sulphuric Acid slightly diluted with water; No. 2, of Red Lead and Sulphuric Acid, also diluted. Mix both to the consistency of dough; then spread two pieces of foil thickly with mixture No. 1, place them on two of the lead grids, and coat the other side in a similar manner. The other two foils and grids will be treated in the same way, except that with them mixture No. 2 must be used. Now fold the grids flat, and lay them between two glass plates under pressure until dry. When the paste is dry the plates may be taken off and a small leaden lug soldered to the top corner of each grid; an india-rubber band must be placed round the top and bottom of each grid to prevent them opening under the electrolytic action that takes place.

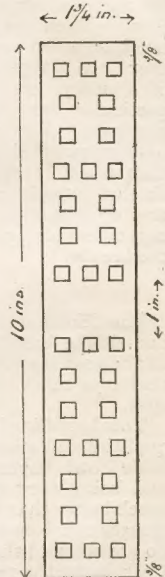


Fig. 3.

The plates may now be put into the cells, one Red Lead and one Litharge plate in each cell, in the manner shewn in Fig. 2. The crosses denote the lugs. A piece of gutta-percha the same size as the bottom should be cut for a cover; make six holes in it, four for the lugs to pass through, and two as a means of filling each cell.

Cement must be used to fix on the top, and also to make the lug-holes air-tight.



Fig. 4.

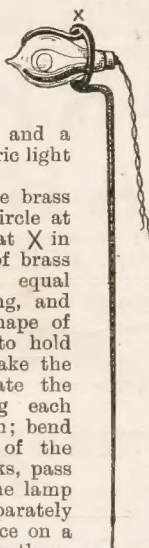
The two middle lugs should be turned down and soldered together, and two small terminals (similar to Fig. 4) may be procured and soldered to the two outer lugs. Now prepare the following:—Pour one part of Sulphuric Acid very slowly into four parts of water, stirring it carefully, and almost fill each cell with this solution. Fit two rubber plugs to the holes, and the Accumulator is practically complete, and only requires "forming" to fit it for useful work. This will be described later on.

To make the Scarf Pin procure the following articles—a 4-volt bottom loop electric fairy lamp, which should not cost more than one shilling; a short length of No. 16 B.W.G. brass wire; and a yard of No. 22 twin flexible electric light wire.

First cut off 6 inches of the brass wire, point one end and bend a circle at the other to go round the lamp at X in Fig. 5. Then cut three pieces of brass wire, solder them at equal distances round the ring, and bend each to fit the shape of the lamp. These are to hold the globe firm. Then take the flexible wire and separate the two conductors, baring each wire to about half an inch; bend the wires at one end of the cable to form two hooks, pass each through one of the lamp loops and cover them separately with fine silk twist. Place on a touch of cement to cover them.

Fig. 5a. The lamp is now ready for use and the Fig. 5. Accumulator must be charged. For this, however, a Battery is required, the description of which must be held over for another chapter.

(To be continued).



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